National Institute of Environmental Health Sciences

Seasonal variation in metabolic syndrome components: How much do they influence the diagnosis of metabolic syndrome?

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Year: 2011
Journal: Current Cardiovascular Risk Reports. 5 (1): 29-37

Abstract:

Obesity and hypertension are increasing problems worldwide, resulting in an enormous economic burden to the society. The metabolic syndrome components (ie, central obesity, dyslipidemia, hyperglycemia, and hypertension) are used to identify individuals at high risk of developing cardiovascular disease and type 2 diabetes. The cause of the syndrome is not yet clear, but insulin resistance and dyslipidemia have been proposed. Emerging evidence suggest that increased visceral adipose tissue stimulates secretion of bioactive compounds that promote inflammation, oxidative stress, and impair lipid metabolism and vascular relaxation. Interestingly, all components of the metabolic syndrome display seasonal variation, and hence may influence diagnosis. The seasonal variability in metabolic components is partly explained by changes in climate and lifestyle factors (eg, physical activity and diet). The clinical role for seasonal variations in metabolic risk factors remains to be further elucidated. However, the new findings indicate that seasonal variation should be considered in diagnosis and management decisions.

Source: http://dx.doi.org/10.1007/s12170-010-0139-z

Resource Description

Exposure : ☑

weather or climate related pathway by which climate change affects health

Solar Radiation, Temperature

Temperature: Fluctuations

Geographic Feature: ☑

resource focuses on specific type of geography

None or Unspecified

Geographic Location: ☑

resource focuses on specific location

Global or Unspecified

Health Impact: ☑

specification of health effect or disease related to climate change exposure

Cardiovascular Effect, Diabetes/Obesity

Cardiovascular Effect: Other Cardiovascular Effect

Cardiovascular Disease (other): Hypertension

Population of Concern: A focus of content

Population of Concern: ☑

populations at particular risk or vulnerability to climate change impacts

Elderly

Other Vulnerable Population: Men; Genetically susceptible

Resource Type: ☑

format or standard characteristic of resource

Review

Timescale: ☑

time period studied

Time Scale Unspecified